



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/670,705

09/27/2000

Gerhard Reichert

6878

7590
Fred Zollinger III
6370 Mt. Pleasant Ave, NW
PO Box 2368
North Canton, OH 44720

02/13/2007

EXAMINER

GOFF II, JOHN L

ART UNIT

PAPER NUMBER

1733

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

02/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/670,705

Applicant(s)

REICHÉRT, GERHARD

Examiner

John L. Goff

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32,33 and 36-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32,33 and 36-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed on 11/30/06.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claims 41 and 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 41 and 42 require a foam body spacer including two insets that define two notches each notch being tapered. It is unclear where in the specification the foam body spacer including two insets that define two notches is described as each notch being tapered. The specification at page 10, lines 4 and 5 discloses that Figures 2G through 2I depict embodiments wherein the spacer is a foam body. None of the embodiments depicted or their description include tapered notches. The specification does include a description of a rigid plastic or metal spacer wherein the spacer includes two insets that define two notches each notch having a curved wall as shown in Figure 2C. However, there is no disclosure that the foam body spacer may include notches having a curved wall. Furthermore, even if there were a disclosure of the notches in Figure 2C as being used with the foam body spacer this is not adequate support for claiming each notch is tapered as in claim 41 as Figure 2C only provides support for notches

Art Unit: 1733

having a curved wall and there is no support in the specification for simply a tapered notch without a curved wall.

Claim Rejections - 35 USC § 103

4. Claims 32, 33, and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glover et al. (U.S. Patent 5,007,217) in view of Battersby (U.S. Patent 3,759,771).

Glover et al. disclose a method of fabricating an insulating glazing unit including providing a first glass sheet having a first perimeter (41 of Figure 2A), providing a second glass sheet having a second perimeter (41 of Figure 2A), disposing between the first and second glass sheets a foam body spacer (40 of Figure 2A) including a desiccant, a moisture barrier layer (46 of Figure 2A), and two insets that define two notches such that an outward channel and desiccant accessible insulating chamber are formed, applying an adhesive (43 of Figure 2A) to directly bond the first and second glass sheets to the opposing sides of the spacer wherein the moisture barrier layer and notches face the channel and each notch is adjacent a glass sheet, applying a primary sealant (44 of Figure 2A) in the channel only at the notches of for example polyisobutylene (a moisture impermeable sealant as defined by applicants at page 10, lines 20-22 and page 11, lines 1-4 of the specification which functions to hermetically seal the insulating chamber), and applying a secondary thermosetting sealant (47 of Figure 2A) in the channel of for example silicone (a structural sealant as defined by applicants at page 11, lines 7-10) (Figures 2A and 2B and Column 6, lines 61-66 and Column 7, lines 5-6 and 25-26 and Column 8, lines 50-68 and Column 9, lines 1-12). Glover et al. appear to teach the primary sealant is pre-applied to the notches of the spacer prior to disposing the spacer between the glass sheets (Column 8, lines 61-

Art Unit: 1733

68 and Column 9, lines 1-5). Glover et al. further teach, at least in other embodiments, the primary sealant is applied to the spacer after disposing the spacer between the glass sheets (Column 9, lines 6-12). However, there is no specific recitation of applying the primary sealant to the notches of the spacer after the spacer is disposed between the glass sheets. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the primary sealant in Glover et al. to the notches of the spacer after the spacer is disposed between the glass sheets, i.e. applying the primary sealant to contact the spacer and glass sheets at the same temperature and pressure, as opposed to pre-applying the primary sealant as shown by Battersby wherein applying the primary sealant to the spacer after disposing the spacer between the glass sheets is advantageous because applying the primary sealant to both the spacer and glass sheets simultaneously heats the spacer and glass sheets and forms a stronger bond between them than would be achieved with a pre-applied primary sealant.

Battersby discloses a method of making an insulating glazing unit (double glazing unit) (Column 1, lines 54-63). Battersby teaches providing a pair of glazing sheets separated by a spacer wherein the spacer is spaced inwardly from the perimeter of the sheets forming an outwardly facing channel and an inward insulating channel (Figures 1 and 5-7 and Column 2, lines 24-29 and 57-60). Battersby teaches sealing the insulating chamber by applying a primary and secondary sealant into the provided outwardly facing channel (Column 2, lines 30-34 and 63-72 and Column 3, lines 1-61). Alternatively, Battersby teaches the primary sealant may be pre-applied to the spacer prior to disposing the spacer between the glazing sheets (Column 4, lines 16-23). However, Battersby teaches applying the primary sealant to both the spacer and glazing sheets simultaneously at the same temperature and pressure, i.e. applying the primary

Art Unit: 1733

sealant after disposing the spacer between the glazing sheets, heats the spacer and glass sheets and forms a stronger bond between them than would be achieved with pre-applied sealants (Column 4, lines 43-47). Battersby further teaches the sealants are applied through an applicator with at least one heads/nozzles. Battersby teaches that the first and second sealants may be different (Column 4, lines 16-23), and the sealants comprise a wide variety of materials including polyisobutylene, polyurethane, and thermosets (Column 3, lines 62-63 and Column 4, lines 7 and 12-13). Battersby teaches that the sealants prevent the entry of dust and/or moisture into the insulating chamber (Column 2, lines 30-34). Battersby further teaches that the spacer may be formed of metal, plastics, or wood and may include a desiccant (Column 2, lines 40-44), and the spacer may have notched corners between the glazing sheets and the spacer with the first sealant applied in the notched corners (Figures 2-6 and Column 2, lines 45-56).

Regarding claim 36, Battersby teaches the primary and secondary sealants are applied at a sealing station from an applicator having at least one head/nozzle (Column 2, lines 63-72 and Column 3, lines 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the primary and secondary sealants taught by Glover et al. using multiple sealant stations of the applicator type suggested by Battersby having only one sealant head/nozzle in order to apply both sealants.

Regarding claims 37 and 38, Battersby teaches the applicator may comprise two heads/nozzles wherein the second applicator head trails the first, thus the second sealant covers the first (Figures 2-4 and Column 2, lines 63-71 and Column 3, lines 1-2 and 11-17 and 40-45). It is noted that in the method and apparatus of Battersby retracting the first applicator head/nozzle does not appear necessary. However, it would have been obvious to one of ordinary

Art Unit: 1733

skill in the art at the time the invention was made to retract the first head/nozzle if the head/nozzle would disturb the application of the second sealant.

5. Claims 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glover et al. (U.S. Patent 5,007,217) in view of Battersby (U.S. Patent 3,759,771) and any one of Town (U.S. Patent 6,002,521), Reichert et al. (U.S. Patent 4,994,309), Woodard et al. (U.S. Patent 5,308,662), or Lizardo et al. (U.S. Patent 4,335,166).

Glover et al. and Battersby are both described above in full detail. The combination of Glover et al. and Battersby is the same as that set forth in paragraph 4 and is not repeated here. Glover et al. and Battersby are silent as to each of the two notches of the spacer being tapered including a curved wall such that the notches are wider adjacent the channel and more narrow closer to the chamber, it being noted Glover et al. is not limited to the notches having any particular configuration. It is well taken in the art of forming a spacer with two notches that the notches are tapered including a curved wall such that the notches are wider adjacent the channel and more narrow closer to the chamber as shown by any one of Town, Reichert et al., Woodard et al., or Lizardo et al. (48 of Figure 11 and Column 12, lines 12-13 of Town and 30A of Figure 3 of Reichert et al. and 24 of Figure 1 of Woodard et al. and 16 of Figure 5 of Lizardo et al.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the two notches of the spacer taught by Glover et al. as modified by Battersby to be tapered including a curved wall such that the notches are wider adjacent the channel and more narrow closer to the chamber as shown by any one of Town, Reichert et al., Woodard et al., or Lizardo et al. such that the primary sealant easily fills the notches.

Response to Arguments

6. Applicant's arguments with respect to claims 32, 33, and 36-42 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues, "Further, Glover does not disclose the claimed method because Glover only uses pre-applied sealant in notches. When the sealant is applied to the corners of the channel, Glover teaches away from the use of notches. The Applicant thus submits one of ordinary skill in the art at the time of the invention would not have been led to make the combination presented in the action because Glover teaches away from the use of notches when applying sealant to a channel disposed outwardly of the spacer. The embodiment of Fig. 2A of Glover '217 discloses a spacer frame configuration having the sealant (44) filling in the notches (Col. 8, line 67) before the spacer is sandwiched between the glass sheets. This glazing unit is then passed through a heated roller press to wet out the sealant (44). This application of the sealant (44) in the Fig. 2A embodiment of Glover '217 is thus opposite to the method recited in independent claim 32 wherein the primary sealant is applied to the notches after the spacer frame is secured to the glass sheets. Glover's Fig. 2B shows the alternative wherein the sealant is applied as a fillet at the corner of the spacer and the glass. Glover thus teaches away from the method recited in the claims."

There is no specific disclosure in Glover teaching away from applying sealant to the notches of the spacer. Glover is considered to simply disclose spacers including those with and without notches may be used and the sealant may be pre-applied sealant or applied after the spacer is installed. There is no teaching in Glover that when using a spacer including notches the sealant must be pre-applied. This follows with that known in the art as shown by Battersby.

Art Unit: 1733

Battersby disclose a spacer including notches having sealant applied thereto wherein the sealant is pre-applied or applied after the spacer is installed wherein applying the sealant after the spacer is installed has the advantage of simultaneously heating the spacer and glass sheets to form a stronger bond between them than would be achieved with a pre-applied sealant. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the sealant to the spacer including notches in Glover after the spacer is installed between the glass panes as shown by Battersby to form a stronger bond than that achieved with a pre-applied sealant.

Applicant further argues, "Further, Glover and Battersby do not disclose the use of tapered notches being filled with primary sealant independent of a sealant that extends across the channel as recited in the claims."

New claims 41 and 42 including the new limitation of the notches being tapered are addressed in the rejections above.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

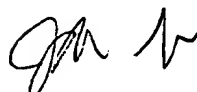
Art Unit: 1733

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is (571) 272-1216. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John L. Goff